

# **Pai Gow Mania**

## **Game Procedures**

Pai Gow Mania is played using a standard 52-card deck, plus a joker, and a pai gow poker table layout with additional betting areas for the applicable bonus wagers (Three card Bonus and best five out of Seven Card Bonus).

Players have the option of placing a three-card bonus wager and/or a seven-card bonus wager prior to the cards being dealt. Minimum and maximum wagering limits for Pai Gow mania bonus wagers are to be determined by the casino licensee pursuant to state rules. (eg. \$1.00 Minimum and \$100.00 Maximum, - \$50,000 maximum payout per player, per hand, on all Bonus Wagers).

Unlike the current rules for pai gow poker which requires a random or rotational starting position for dealing the cards, in this variation for each round of play, the dealer deals to the player farthest to his or her left and continues around the table in a clockwise manner. Further, unlike pai gow poker where the dealer deals all seven cards to each player prior to any hand evaluation by players or the dealer, the dealer initially deals three consecutive cards face down to each player and the dealer. Cards may be delivered via the Ace shuffler (automatic shuffler) or hand dealt.

Players who have placed a three-card bonus wager may then evaluate their cards to determine whether they have a winning three-card bonus hand. The casino will have the option of allowing players who have not made a three-card bonus wager to view their cards. A player with a winning three-card bonus wager hand shall place his or her three cards face up on the table. The dealer shall then collect all losing three-card bonus wagers and pay all winning three-card bonus hands in accordance with the odds set forth.

The dealer then proceeds to deal each player and the dealer four additional consecutive cards face down to complete their pai gow poker hand. The four cards will be dealt by hand after the dealer has ejected the stub from the shuffler and placed the stud on a yellow cover card. The dealer will follow the standard procedures to complete the round of play for each player and settle the pai gow poker wagers, except that all losing seven-card bonus wagers are collected and winning seven-card bonus wagers (best five card hand out of seven cards) are paid in accordance with the payout odds set forth regardless of the outcome of the player's pai gow poker wager.

<b>Three-Card Bonus Payout Odds</b>	
<b><u>Hand</u></b>	<b><u>Payout Odds</u></b>
Three-Card Straight Flush, no Joker	40 to 1
Three-of-a-Kind	25 to 1
Three-Card Straight Flush	5 to 1
Three-Card Straight	4 to 1
Three-Card flush	3 to 1
One Pair	1 to 1
<b>Seven-Card Bonus Payout Odds</b>	
<b><u>Hand</u></b>	
Five Aces	500 to 1
Royal Flush	200 to 1
Straight Flush	50 to 1
Straight Flush With Joker	30 to 1
Four-of-a-Kind	25 to 1
Full House	5 to 1
Flush	4 to 1
Three-of-a-Kind	3 to 1
Straight	2 to 1
X ANTE	



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March 8, 2004

Ms. Jennifer Chelf  
Indiana Gaming Commission  
South Tower, Suite 950  
115 W. Washington Street  
Indianapolis, Indiana 46204

Re: Additional Paytables for Pai Gow-Mania by New Vision Gaming

Dear Ms. Chelf,

By letter dated February 24, 2004, Mr. John Feola of New Vision Gaming has requested an additional paytables to be used with his previously approved Pai Gow-Mania. Gaming Laboratories International, Inc. last submitted an opinion to the Indiana Gaming Commission on the Pai Gow-Mania in a letter dated December 19, 2003.

He has represented in his documents that they are not changing the rules of the game, just adding an additional paytables. Our Mathematics Department has done a review of the proposal and is incorporated into this letter.

**MATHEMATICAL DESCRIPTION OF PAI GOW-MANIA  
(PREVIOUSLY APPROVED)**

This submission of Pai Gow-Mania is identical to the previously approved version with the exception of added paytables. We have reiterated our game description from our previous document for clarification purposes.

Paul Gow-Mania is a game that adds bonus bets to the underlying game of Pai Gow Poker. The game is dealt from a single deck of cards with a Joker and can be played by up to 6 players. The Joker can be used as an Ace or to complete a straight, flush, and straight flush. In addition to the regular Pai Gow bet, players have the option to make a Three Card Bonus bet and/or a Pai Gow Bonus bet. No commission is charged on winning hands. To begin, each player and dealer will be dealt three cards face down. Players who qualify for a Three Card bonus will place their cards face up on the table and the dealer will pay out awards according

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to one of the pay schedules in Table I according to the house rules. Non-winning Three Card Bonus bets will be collected. After the Three Card Bonus bets are resolved each player and the dealer will be dealt four more cards to complete their Pai Gow hand. The hand will then be split into five-card high and two-card low hands and the traditional Pai Gow game will be played with a 5% commission collected on winning hands. After the standard Pai Gow game has ended players that have a qualifying bonus hand using their five-card high hand will be paid according to a pay schedule. In this version there are two types of Bonus schedules for the Pai Gow Bonus bet, in the standard type all straight flushes are paid the same and in the Joker type a straight flush with a Joker is not worth as much as a natural straight flush.

## **PAYTABLE MODIFICATION**

The inventor has NOT made any changes to their previously approved Three Card Bonus Pay Schedules.

The inventor has added three new Pai Gow Bonus paytables, one payable where a straight flush is paid the same whether or not a Joker is used. The inventor has added two new paytables where a straight flush with a Joker pays less than a straight flush without a Joker.

A computer program was written to cycle through all possible combinations of 3 and 7 cards from a 53-card Joker deck and compute the occurrences of each possible winning combination for each bet. The results of each analysis are displayed in Table 4b. The house edge upon the player wagering on any single bet (only betting the Three Card Bonus or Pai Gow Bonus) are displayed in Table 5. Possible combined results, the average house edge on the player betting on both Three Card and Pai Gow bonuses can be seen in Table 6.

In conclusion, the maximum return to the player occurs at a 3.86% house edge, when the player makes only the Three-Card Bonus Wager on Pay Table 1 and achieves a 96.14% return on investment. The minimum is 90.89% when the player bets on Pay Table D, making only the Pai Gow Bonus wager in which the house has a 9.11% edge.

**Table 1: Previously Approved Possible Three Card Bonus Pay Schedules**

Hand	Pay Table 1 PREVIOUSLY APPROVED	Pay Table 2 PREVIOUSLY APPROVED
Natural Straight Flush	40	40
3 of a Kind	30	25
Straight Flush	5	5
Straight	4	4
Flush	3	3
One Pair	1	1

**Table 2: Probability and Return Calculation for Three Card Bonus Pay Schedules**

Three Card Bonus Results				
Hand	Occurrences	Probability	Returns Per Table	
			1	2
Natural Straight Flush	48	0.2049%	0.081960215	0.081960215
3 of a Kind	58	0.2476%	0.074276445	0.061897037
Straight Flush	100	0.4269%	0.021343806	0.021343806
Straight	1020	4.3541%	0.174165457	0.174165457
Flush	1308	5.5835%	0.16750619	0.16750619
One Pair	3912	16.6994%	0.166993938	0.166993938
Nothing	16980	72.4836%	-0.72483565	-0.72483565
Total	23426	100.0000%	-3.85896%	-5.096901%

**Table 3a: Previously Approved and New Pai Gow Bonus Standard Pay Schedules.**

Hand	Pay Table A Previously Approved	Pay Table B Previously Approved	Pay Table C NEW SUBMISSION
5 Aces	1000	500	500
Royal Flush	250	250	200
Straight Flush	50	50	40
Four of a Kind	25	25	25
Full House	5	5	5
Flush	4	4	4
Three of a Kind	3	3	3
Straight	2	2	2

**Table 3b: New Pai Gow Bonus Joker Pay Schedules**

Hand	Pay Table D NEW SUBMISSION	Pay Table E NEW SUBMISSION
5 Aces	500	500
Royal Flush	200	200
Straight Flush	50	50
Straight Flush With Joker	30	30
Four of a Kind	25	25
Full House	5	6
Flush	4	4
Three of a Kind	3	3
Straight	2	2

**Table 4a: Standard Pai Gow Bonus Results**

Hand	Occurrences	Probability	Returns Per Table		
			A	B	C
5 Aces	1128	0.0007%	0.007317876	0.003658938	0.003658938
Royal Flush	26132	0.0170%	0.042382701	0.042382701	0.03390616
Natural Straight Flush	184832	0.1199%	0.059954686	0.059954686	0.047963749
Four of a Kind	307472	0.1995%	0.049867954	0.049867954	0.049867954
Full House	4188528	2.7173%	0.135864938	0.135864938	0.135864938
Flush	6172088	4.0041%	0.160165166	0.160165166	0.160165166
Three of a Kind	7672500	4.9775%	0.149325549	0.149325549	0.149325549
Straight	11034204	7.1584%	0.143168334	0.143168334	0.143168334
Nothing	124556196	80.8056%	-.808056%	-.808056%	-.808056%
Total	154143080	100.0000%	-6.000851%	-6.366744%	-8.413492%

**Table 4b: Pai Gow Bonus With Different Straight Flush Awards Results**

Hand	Occurrences	Probability	Returns Per Table	
			D	E
5 Aces	1128	0.0007%	0.003658938	0.003658938
Royal Flush	26132	0.0170%	0.03390616	0.03390616
Natural Straight Flush	38728	0.0251%	0.012562354	0.012562354

**Table 4b: Continued**

Hand	Occurrences	Probability	Returns Per Table	
Straight Flush With Joker	146104	0.0948%	0.028435399	0.028435399
Four of a Kind	307472	0.1995%	0.049867954	0.049867954
Full House	4188528	2.7173%	0.135864938	0.163037926
Flush	6172088	4.0041%	0.160165166	0.160165166
Three of a Kind	7672500	4.9775%	0.149325549	0.149325549
Straight	11034204	7.1584%	0.143168334	0.143168334
Nothing	124556196	80.8056%	-808056%	-808056%
Total	154143080	100.0000%	-9.1101%	-6.3928%

## OVERALL RESULTS

**Table 5: Expected House Edges**

House Edge Per Single Pay Table						
1	2	A	B	C	D	E
3.86%	5.10%	6.60%	6.37%	8.41%	9.11%	6.39%

**Table 6: Overall Possible Outcomes**

Player's Three Card Pay Table	Player's Pai Gow Pay Table	House Edge
1	A	4.9299%
	B	5.1129%
	C	6.1362%
	D	6.4845%
	E	5.1259%
2	A	5.548876%
	B	5.731823%
	C	6.755197%
	D	7.1035%
	E	5.7448%

## OPINION

GLI has reviewed the play of this game against the original game that was submitted and approved. We have verified that the play of the game has not been affected except for the payout changes as noted herein. Therefore, GLI does not modify its opinion as to permissibility of this game from our original opinion letter attached.

Should you have any other questions in this matter, please do not hesitate to contact me.

Best regards,

  
James R. Maida  
President

JRM/absl

c: John Feola, New Vision Gaming

Enclosure

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